ABSTRACT OF THE DISCLOSURE

A service-oriented framework allows client applications to access computational services hosted on a distributed computing grid. Services facilitate remote, parallel execution of code in a way that is scalable, fault-tolerant, dynamic and language-independent. Services can be written in a variety of languages, and do not need to be compiled or linked with vendor-supplied code. A client written in one language can invoke a Service written in another.

A benefit of the invention over traditional approaches is that it virtualizes the Service. Rather than send a request directly to the remote machine hosting the Service, a client request is sent to a manager, which enqueues it until an Engine is available. The first Engine to dequeue the request hosts the Service. This mechanism, in which a single virtual Service instance (the client-side object) is implemented by one or more physical instances (Engine processes), provides for fault tolerance and essentially unlimited scalability.